Mr. Stephan O. Ketcham
Ferro Corporation, Filled and Reinforced Plastics Division
5001 O'Hara Dr.
Evansville, IN 47711

Re: **163-11860**
Third Significant Revision to
FESOP 163-5612-00120

Dear Mr. Ketcham:

Ferro Corp. was issued a permit on December 11, 1996 for the custom compounding of purchased resins. A letter requesting changes to this permit was received on January 26, 2000. Pursuant to the provisions of 326 IAC 2-8-11.1 a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document.

One (1) extrusion line, consisting of a blender and extruder, identified as C25, located in building 2, with a maximum capacity of 4,666.67 pounds of final product per hour.

The blenders in building 2 will increase their combined blending capacity from 12,533.33 pounds of raw materials per hour to 17,200 pounds of final product per hour. The PM emissions from the blending is controlled by baghouse EX30, which will replace the proposed baghouse EX29. Two (2) existing permitted extrusion lines, identified as C03 and C20, with a combined production capacity of 1,333.33 pounds per hour of finished product, have been relocated to building 5. The source has stated that it will continue to comply with all the emission limits in their current FESOP.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
   The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

Questions should be directed to Phillip Ritz, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for extension (3-6878), or dial (973) 575-2555, extension 3241.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
PR/EVP
cc: File - Vanderburgh County
U.S. EPA, Region V
Vanderburgh County Health Department
Evansville EPA
Air Compliance Section Inspector - Scott Anslinger
Compliance Data Section - Jerri Curless
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michelle Boner

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) SIGNIFICANT MODIFICATION and ENHANCED NEW SOURCE REVIEW (ENSR) OFFICE OF AIR MANAGEMENT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
Phone: 1-800-451-6027

Ferro Corporation, Filled and Reinforced Plastics Division
5001 O'Hara Drive
Evansville, Indiana 47711

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the facilities listed in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 and contains the conditions and provisions specified in 326 IAC 2-8 and 40 CFR Part 70.6 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments) and IC 13-15 and IC 13-17 (prior to July 1, 1996, IC 13-1-1-4 and IC 13-7-10).

Operation Permit No.: F163-5612-00120	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: December 11, 1996

First Minor Permit Modification: MMF 163-8206-00120, issued on August 12, 1997
First Significant FESOP Modification: SMF/ENSR 163-9562-00120, issued on August 24, 1998
Second Significant FESOP Modification SMF 163-10422-00120, issued on March 11, 1999

Third Significant FESOP Modification SMF 163-11860-00120	Pages Affected: 4, 5, 22, 23, 23a, 23b, and 23c
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

SECTION A SOURCE SUMMARY

A.1 General Information

The Permittee owns and operates a plant that custom compounds purchased resins.

Responsible Official:	Stephen Ketcham
Source Address:	5001 O'Hara Drive, Evansville, Indiana 47711
Mailing Address:	5001 O'Hara Drive, Evansville, Indiana 47711
SIC Code:	3087
County Location:	Vanderburgh
County Status:	Attainment for all criteria pollutants.
Source Status:	Synthetic Minor Source, FESOP Program

A.2 Emission Units and Pollution Control Summary

The stationary source consists of the following emission units and pollution control devices:

(1) Building 1, which is capable of processing 27,697 pounds of raw materials per hour (lb/hr). This building consists of the following:
   (a) Raw materials handling; which includes two (2) rail unloading systems, which are controlled by baghouses EX 3 and EX 4;
   (b) Eight (8) blenders C04, C06, C15, C16, C18, C31, C32, and C51. These blenders are capable of blending 27,697 pounds of raw materials per hour. All blenders are controlled by baghouse EX 1;
   (c) Eight (8) extruders C04, C06, C15, C16, C18, C31, C32, and C51. These extruders are capable of extruding 27,697 pounds of raw materials per hour. These extruders are controlled by baghouse EX 2; and
   (d) One (1) regrinder.

(2) Building 2, which is capable of processing 17,344 pounds of raw materials per hour (lb/hr). This building consists of the following:
   (a) Five (5) blenders C22, C23, C24, C25, and C45. These blenders are capable of blending 17,344 pounds of raw materials per hour. The PM emissions from the blending is controlled by baghouse EX30;
   (b) Five (5) extruders C22, C23, C24, C25, and C45. These extruders are capable of extruding 17,344 pounds of raw materials per hour.

   Each extrusion line consists of a dedicated blender, material handling, extruder and pelletizing. The source utilizes different types of plastic in the process such as: Polyethylenes, Polypropylenes, ABS, EVA, Nylons, and Polystyrenes.

A.3 Insignificant Activities

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

Other activities or categories where emissions are equal to or less than 5 pounds of PM per hour or 25 pounds per day:

(a) These activities include thirty four (34) pellets silos, eight (8) weigh hoppers, pellet conveyor elevators, pellet conveyor augers and cooling towers.

(b) Building 5, which is capable of processing 1,345 pounds of raw materials per hour (lb/hr). This building consists of the following:

(a) Two (2) blenders C03, and C20. These blenders are capable of blending 1,345 pounds of raw materials per hour;
(b) Two (2) extruders C03, and C20. These extruders are capable of extruding 1,345 pounds of raw materials per hour.

A.4 FESOP Applicability [326 IAC 2-8-2]
This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a Federally Enforceable State Operating Permit (FESOP).

SECTION D.1 FACILITY OPERATION CONDITIONS

(1) Building 1, which is capable of processing 27,697 pounds of raw materials per hour (lb/hr). This building consists of the following:
- (a) Raw materials handling; which includes two (2) rail unloading systems, which are controlled by baghouses EX 3 and EX 4;
- (b) Eight (8) blenders C04, C06, C15, C16, C18, C31, C32, and C51. These blenders are capable of blending 27,697 pounds of raw materials per hour. All blenders are controlled by baghouse EX 1;
- (c) Eight (8) extruders C04, C06, C15, C16, C18, C31, C32, and C51. These extruders are capable of extruding 27,697 pounds of raw materials per hour. These extruders are controlled by baghouse EX 2; and
- (d) One (1) regrinder.

(2) Building 2, which is capable of processing 17,344 pounds of raw materials per hour (lb/hr). This building consists of the following:
- (a) Five (5) blenders C22, C23, C24, C25, and C45. These blenders are capable of blending 17,344 pounds of raw materials per hour. The PM emissions from the blending is controlled by baghouse EX30;
- (b) Five (5) extruders C22, C23, C24, C25, and C45. These extruders are capable of extruding 17,344 pounds of raw materials per hour.

Each extrusion line consists of a dedicated blender, material handling, extruder and pelletizing. The source utilizes different types of plastic in the process such as: Polyethylenes, Polypropylenes, ABS, EVA, Nylons, and Polystyrenes.

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

Construction Conditions [326 IAC 2-1-3.2]

General Construction Conditions

D.1.1 General Construction Conditions

(a) The data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).

(b) This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

D.1.2 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

D.1.3 Revocation of Permits [326 IAC 2-1-9(b)]

Pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

D.1.4 Permit Review Rules [326 IAC 2]

Notwithstanding Construction Condition No.D.1.5, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

D.1.5 First Time Operation Permit [326 IAC 2-1-4]

This document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:

(a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.

(b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

(c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

(d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-7-19 (Fees).

Operation Conditions

D.1.6 General Operation Conditions

(a) The data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).

(a) The Permittee shall comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC13-17) and the rules promulgated thereunder.

D.1.7 Transfer of Permit [326 IAC 2-1-6]

Pursuant to 326 IAC 2-1-6 (Transfer of Permits):

(a) In the event that ownership of this custom compounder of purchased resins is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.

(b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.

(c) The OAM shall reserve the right to issue a new permit.

D.1.8 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

(a) Violation of any conditions of this permit.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

(c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit

(d) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

D.1.9 Availability of Permit [326 IAC 2-1-3(l)]

Pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of the source and shall make this permit available for inspection by the IDEM, or other public official having jurisdiction.

Operation Conditions

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

D.1.10 Particulate Matter less than 10 Microns [326 IAC 2-8][326 IAC 2-2]

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration):

(a) The baghouse identified as EX1 controlling the blenders in Building 1 shall be in operation at all times the emission units vented to the baghouse are in operation and the PM10 emissions from the blenders in Buildings 1 shall not exceed 5.18 pounds per hour.

(b) The baghouse identified as EX2 controlling the extruders in Building 1 shall be in operation at all times the emission units vented to the baghouse are in operation and the PM10 emissions from the extruders in Building 1 shall not exceed 5.18 pounds per hour.

(c) The baghouses identified as EX3 and 4 controlling the Raw materials handling; which includes two (2) rail unloading systems in Building 1 shall be in operation at all times the emission units vented to the baghouse are in operation and the PM10 emissions from the Raw materials handling; which includes two (2) rail unloading systems in Building 1 shall each not exceed 1.3 pounds per hour.

(d) The baghouse identified as EX30 controlling the blenders in Building 2 shall be in operation at all times the emission units vented to the baghouse are in operation and the PM10 emissions from the blenders in Building 2 shall not exceed 8.8 pounds per hour.

These limits are necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits), not applicable.

D.1.11 Particulate Matter (PM)

Pursuant to 326 IAC 6-3 the PM emissions from the following facilities shall be limited as follows:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Facilities	Baghouse ID	PM Allowable Emissions (lb/hr)
Building 1: Blenders C04, C06, C15, C16, C18, C31, C32, and C51	EX1	23.8

Building 1: Extruders C04, C06, C15, C16, C18, C31, C32, and C51	EX2	23.7
Building 1: Rail Unloading	EX3	12.4
Building 1: Rail Unloading	EX4	12.4
Building 2: Raw Material Handling-Truck Unloading; Blenders C22, C23, C24, C25 and C45; Extruders C22, C23, C24, C25 and C45	EX30	17.33
TOTAL		89.63

D.1.12 Volatile Organic Compounds (VOC)

Any change or modification which may increase the potential volatile organic compound emissions to 25 tons per year or more from each extruder line in this permit must be approved by the Office of Air Management (OAM) and be subject to 326 IAC 8-1-6 (General Reduction Requirements) before such change may occur.

D.1.13 New Sources Toxics Control (HAPs)

Any change or modification which may increase the potential emissions of any single hazardous air pollutant or any combination of hazardous air pollutants to 10 or 25 tons per year or more, respectively, from each extruder line in this permit must be approved by the Office of Air Management (OAM) and be subject to 326 IAC 2-4.1 (New Sources Toxics Control) before such change may occur.

Compliance Monitoring Requirements [326 IAC 2-8-5(a)(1)]

D.1.14 Pressure Drop Readings

The Permittee shall take readings of the total static pressure drop ranges across all baghouses, at least once per day when any of the blenders and extruders in Buildings 1 and 2 (C04, C06, C15, C16, C18, C31, C32, C51, C22, C23, C24, C25 and C45) are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop range across the baghouses EX1, EX2, and EX30 shall be maintained at 0.8 to 6.0 inches of water or ranges established during the most recent stack test. Baghouses EX3, and EX4, shall be maintained at a pressure drop range of 0.5 to 2.0 inches of water across the baghouses, or ranges established during the most recent stack test. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of this level for any one reading.

The instrument used for determining the pressure shall comply with condition C.10 Pressure Gauge Specifications, be subject to approval by IDEM, OAM, and EEPA and shall be calibrated at least once every six (6) months.

D.1.15 Visible Emissions Notations

Weekly visible emission notations of the truck unloading, blenders, extruding and regrinding stack exhaust in Buildings 1 and 2 shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, 80% of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for the pollution control devices or baghouses shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.16 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

Pursuant to the requirements of 326 IAC 2-1-4, compliance testing shall be conducted from baghouses EX1, EX2, EX3, and EX4 to establish each pressure drop range that corresponds to the PM and PM10 limit in D.1.10. This stack tests shall be performed within twenty-four months after the original FESOP permit issue date, December 1, 1998. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner. The Office of Air Management (OAM and EEPA) shall be notified of the actual test date at least two (2) weeks prior to the date, a test protocol shall be submitted to the OAM, Compliance Data Section, and EEPA 35 days in advance of the test, and all test reports must be received by the OAM within 45 days of completion of the testing, pursuant to that rule.

D.1.17 Preventive Maintenance Plan

A Preventive Maintenance Plan, in accordance with Condition B.13 of this permit, is required for these facilities.

D.1.18 Record Keeping Requirements

(a) To document compliance with Condition D.1.14, the Permittee shall maintain records of weekly visible emission notations of the materials handling, blending and extruding stack exhaust in Buildings 1 and 2.

(b) To document compliance with Condition D.1.13, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure.

(2) Documentation of all response steps implemented, per event.

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

Indiana Department of Environmental Management
Office of Air Management

Addendum to the
Technical Support Document for Significant Permit Revision to a Federally Enforceable State Operating Permit

Source Name:	Ferro Corporation, Filled and Reinforced Plastics Division (formerly listed as Ferro Corporation, Filled and Reinforced Division)
Source Location:	5001 O'Hara Dr., Evansville, IN 47711
County:	Vanderburgh
SIC Code:	3087
Operation Permit No.:	F163-5612-00120
Operation Permit Issuance Date:	December 11, 1996
Permit Revision No.:	SMF163-11860-00120
Permit Reviewer:	Phillip Ritz/EVP

On April 26, 2000, the Office of Air Management (OAM) had a notice published in the Evansville Courier, Evansville, Indiana, stating that Ferro Corporation, Filled and Reinforced Plastics Division had applied for a Significant Permit Revision to a Federal Enforceable State Operating Permit (FESOP) for the operation of a modification to a plastic filled resin manufacturing plant. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit revision and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit revision should be issued as proposed.

On May 9, 2000, Ferro Corporation, Filled and Reinforced Plastics Division submitted comments on the proposed Significant Permit Revision to a Federal Enforceable State Operating Permit (FESOP). The summary of the comments and corresponding responses is as follows:

Comment 1

Please correct the description of our facility from "plastic filled resin manufacturing plant" to "custom compounder of purchased resins"

Response 1

Section A.1 of the permit, General Information, has been revised to correct the source description. The changes to the permit are as follows:

> The Permittee owns and operates a ~~plastic filled resin manufacturing~~ plant **that custom compounds purchased resins**.

Comment 2

Ferro Corporation would like to clarify the maximum design capacity and throughput figures we have provided, as there has been some confusion regarding those numbers. The capacities should list the maximum raw material throughput and not the maximum design capacity of finished goods.

	Maximum Raw Material Throughput	Maximum Design Capacity of Finished Goods
Building 1	27,697 lb/hr	27,466 lb/hr
Building 2	17,344 lb/hr	17,200 lb/hr
Building 5	1,345 lb/hr	1,333 lb/hr

Response 2

The throughputs listed have been corrected to list the maximum raw material throughput, not the

maximum finished goods throughput. The corrections to the unit descriptions do not affect the potential emissions from the source. Therefore, Sections A.2 and D.1 of the permit and the emission unit description on page 1 of 12 of the TSD have been revised as follows:

The OAM prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

(2) Building 2, which is capable of processing ~~17,200~~ **17,344** pounds of raw materials per hour (lb/hr). This building consists of the following:
  (a) Five (5) blenders C22, C23, C24, C25, and C45. These blenders are capable of blending ~~17,200~~ **17,344** pounds of raw materials per hour. The PM emissions from the blending is controlled by baghouse EX30;
  (b) Five (5) extruders C22, C23, C24, C25, and C45. These extruders are capable of extruding ~~17,200~~ **17,344** pounds of raw materials per hour.

Comment 3
Please change the insignificant activities description in Section A.3 of the permit to reflect the following:

(a) These activities include ~~twenty~~ **thirty four** (~~20~~ **34**) pellets silos, ~~two~~ **eight** (~~2~~ **8**) weigh hoppers, pellet conveyor elevators, pellet conveyor augers and cooling towers.

(b) Building 5, which is capable of processing ~~1,333.33~~ **1,345** pounds of raw materials per hour (lb/hr). This building consists of the following:
  (a) Two (2) blenders C03, and C20. These blenders are capable of blending ~~1,333.33~~ **1,345** pounds of raw materials per hour;
  (b) Two (2) extruders C03, and C20. These extruders are capable of extruding ~~1,333.33~~ **1,345** pounds of raw materials per hour.

Response 3
The throughputs listed have been corrected to list only the maximum raw material throughput. The corrections to the insignificant activities descriptions do not affect the potential emissions from the source. Therefore, the insignificant activities list has been revised to list the correct number and throughputs of pellet silos, weight hoppers and blenders at the source. Section A.3 of the permit and the insignificant activities description on page 1 of 12 of the TSD have been revised to read as follows:

(a) These activities include ~~twenty~~ **thirty four** (~~20~~ **34**) pellets silos, ~~two~~ **eight** (~~2~~ **8**) weigh hoppers, pellet conveyor elevators, pellet conveyor augers and cooling towers.

(b) Building 5, which is capable of processing ~~1,333.33~~ **1,345** pounds of raw materials per hour (lb/hr). This building consists of the following:
  (a) Two (2) blenders C03, and C20. These blenders are capable of blending ~~1,333.33~~ **1,345** pounds of raw materials per hour;
  (b) Two (2) extruders C03, and C20. These extruders are capable of extruding ~~1,333.33~~ **1,345** pounds of raw materials per hour.

Comment 4
Please revise Condition D.1.10 of the permit (Particulate Matter less than 10 Microns) to list the correct allowable PM10 emissions from Building 1. The potential to emit table list the correct limited

potential to emit for the blenders in Building 1, however, the pound per hour allowable emission rate was incorrectly stated as 3.39 pounds per hour. The correct emission rate is 5.18 pounds per hour.

Response 4

Condition D.1.10 has been changed to list the correct allowable PM10 emissions from Building 1. The pound per hour allowable emission rate was incorrectly stated in Condition D.1.10 as 3.39 pounds per hour. The correct allowable emission rate is 5.18 pounds per hour. The changes to Condition D.1.10 of the permit are as follows:

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration):

(a) The baghouse identified as EX1 controlling the blenders in Building 1 shall be in operation at all times the emission units vented to the baghouse are in operation and the PM10 emissions from the blenders in Buildings 1 shall not exceed ~~3.39~~**5.18** pounds per hour.

Comment 5

Please revise the discussion of the source history on page 1 of 12 of the TSD to list the maximum raw material throughput and not the maximum design capacity of finished goods.

Response 5

The source history on Page 1 of 12 of the TSD has been modified to list the maximum raw material throughput. The changes to the history section are as follows:

The blenders in building 2 will increase their combined blending capacity from 12,533.33 pounds of raw materials per hour to ~~17,200~~**17,344** pounds of raw material per hour. The PM emissions from the blending is controlled by baghouse EX30, which will replace the proposed baghouse EX29. Two (2) existing permitted extrusion lines, identified as C03 and C20, with a combined production capacity of 1,333.33 pounds per hour of finished product, have been relocated to building 5 as insignificant activities. The source has stated that it will continue to comply with all the emission limits in their current FESOP.

Comment 6

Please revise the emission calculations to clarify the units used for the calculations. The VOC emissions calculations use a maximum hourly resin throughput rate, and the PM and PM10 emissions calculations use the amount of finished goods. The changes should be as follows:

Response 6

The TSD has been revised as follows:

Building 2:
maximum **hourly** resin ~~capacity~~ **throughput rate** = 12,384 lb/hr, 28% is filler

Building 5:
maximum **hourly** resin ~~capacity~~ **throughput rate** = 960 lb/hr, 28% is filler

Building 2:
maximum capacity = 17,200.00 lb/hr **finished goods**

Building 5:
maximum capacity = 1,333~~.33~~lb/hr **finished goods**

Comment 7

All particulate matter emitted is assumed to be PM10. Therefore, please delete the 60.19 tons per year potential to emit for PM.

Response 7

The emission calculations for the existing approvals for this source assume that PM and PM10 are equal. Testing would be required to verify the new PM emission factor. Upon further review the source requested that the PM emission factor remain and that no PM testing be required.

Comment 8

Please correct the insignificant activities listed in the footer of the Limited Potential to Emit table on page 5 of 12 of the TSD.

Response 8

The footnote of the Limited Potential to Emit table on page 5 of 12 of the TSD has been revised as follows:

> *Insignificant Activities include ~~twenty~~ **thirty four** (~~20~~ **34**) pellets silos, ~~two~~ **eight** (~~2~~ **8**) weigh hoppers, pellet conveyor elevators, pellet conveyor augers and cooling towers.

Comment 9

Please correct the emission factors and emission for PM10 emissions for units C03 and C20.

Response 9

The emission calculations on page 3 of 12 of the TSD list the correct calculations. Appendix A of the TSD should also have been revised to list the correct emission factor and emission for C03 and C20. The revised calculations are as follows:

Potential PM Emissions * * Process Emissions * *

Process:	Rate (lbs/hr)	Pollutant	Ef (lb/ton produced)	PM Emissions (ton/yr)	Eac #1 (ton/yr)	Type of control	Control Efficiency (%)
C-25	4666.6	PM	5.96	60.91	0.06	baghouse	99.9%
C-03	733.3	PM	~~8.1~~ **0.4**	~~12.96~~ **0.60**	~~12.96~~ **0.60**		
C-20	600.0	PM	~~8.1~~ **0.4**	~~10.60~~ **0.49**	~~10.60~~ **0.49**		

Upon further review from the OAM, the OAM has decided to make the following changes to the Significant Permit Revision to a Federally Enforceable State Operating Permit:

Comment 20

Condition D.1.11 of the permit (Particulate Matter (PM)) has been revised to remove the Truncated PM Allowable Emissions, as the PM emissions do not need to be limited (or truncated) to make 326 IAC 2-7 not applicable to the source. Therefore, Condition D.1.11 of the permit has been revised as follows:

Facilities	Baghouse ID	PM Allowable Emissions (lb/hr)	~~Truncated PM Allowable Emissions (lb/hr)~~
Building 1: Blenders C04, C06, C15, C16, C18, C31, C32, and C51	EX1	23.8	~~5.18~~
Building 1: Extruders C04, C06, C15, C16, C18, C31, C32, and C51	EX2	23.7	~~5.18~~
Building 1: Rail Unloading	EX3	12.4	~~1.3~~

Building 1: Rail Unloading	EX4	12.4	~~1.3~~
Building 2: Raw Material Handling-Truck Unloading; Blenders C22, C23, C24, C25 and C45; Extruders C22, C23, C24, C25 and C45	EX30	17.33	~~8.8~~
TOTAL		89.63	~~21.8~~

~~The allowables were truncated to 5.18 pounds per hour for the baghouse identified as EX1; 5.18 pounds per hour for the baghouse identified as EX2; 2.6 pounds per hour for the baghouse identified as EX3 and 4; and 8.80 pounds per hour for the baghouse identified as EX30; therefore, the requirements of 326 IAC 2-7 do not apply.~~

Indiana Department of Environmental Management
Office of Air Management
and Evansville EPA

Technical Support Document (TSD) for a Significant Permit Revision to a Federally Enforceable State Operating Permit

Source Background and Description

Source Name:	**Ferro Corporation, Filled and Reinforced Plastics Division (formerly listed as Ferro Corporation, Filled and Reinforced Division)**
Source Location:	**5001 O'Hara Dr., Evansville, IN 47711**
County:	**Vanderburgh**
SIC Code:	**3087**
Operation Permit No.:	**F163-5612-00120**
Operation Permit Issuance Date:	**December 11, 1996**
Permit Revision No.:	**SMF163-11860-00120**
Permit Reviewer:	**Phillip Ritz/EVP**

The Office of Air Management (OAM) has reviewed a revision application from Ferro Corporation, Filled and Reinforced Plastics Division (formerly listed as Ferro Corporation, Filled and Reinforced Division) relating to the operation of a manufacturing operation engaged in the custom compounding of purchased resins.

History

On January 26, 2000, Ferro Corporation, Filled and Reinforced Division submitted an application to the OAM requesting to add the following to their existing plant:

(a) One (1) extrusion line, consisting of a blender and extruder, identified as C25, located in building 2, with a maximum capacity of 4,666.67 pounds of raw material per hour.

The blenders in building 2 will increase their combined blending capacity from 12,533.33 pounds of raw materials per hour to 17,200 pounds of raw material per hour. The PM emissions from the blending is controlled by baghouse EX30, which will replace the proposed baghouse EX29. Two (2) existing permitted extrusion lines, identified as C03 and C20, with a combined production capacity of 1,333.33 pounds per hour of finished product, have been relocated to building 5 as insignificant activities. The source has stated that it will continue to comply with all the emission limits in their current FESOP.

Ferro Corporation, Filled and Reinforced Plastics Division has also requested that it's name (formerly listed as Ferro Corporation, Filled and Reinforced Division) be corrected for clarification purposes.

Ferro Corporation, Filled and Reinforced Plastics Division was issued a Federally Enforceable State Operating Permit on December 11, 1996.

Existing Approvals

The source was issued a Federally Enforceable State Operating Permit (F163-5612-00120) on December 11, 1996. The source has since received the following:

(a) First Minor Permit Modification: MMF 163-8206-00120, issued on August 12, 1997;

(b) First Significant FESOP Modification: SMF/ENSR 163-9562-00120, issued on August 24, 1998; and

(c) Second Significant FESOP Modification: SMF 163-10422-00120, issued on March 11, 1999.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Significant Permit Revision be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on January 16, 2000.

Emission Calculations

The calculations submitted by the applicant have been verified and found to be accurate and correct.

Building 2:
maximum resin capacity = 12,384 lb/hr, 28% is filler

Extruder Lines ID	Maximum Capacity of raw material (lb/hr)	VOC Emissions (ton/yr)
C22	1,440.00	3.15
C23	3,360.00	7.36
C24	3,360.00	7.36
C25	3,360.00	7.36
C45*	1,200.00	2.63

TOTAL		27.86

* No fillers are used on Extruder C45

Building 5:
maximum resin capacity = 960 lb/hr, 28% is filler

Extruder Lines ID	Maximum Capacity of raw material (lb/hr)	VOC Emissions (ton/yr)
C03	528.00	1.15
C20	432.00	0.95
TOTAL		2.10

Methodology:
VOC Emissions = Throughput, lb/hr * ton/2000 lb * 1 lb/ton * ton/2000 lb * 8760 hr/yr

Building 2:
maximum capacity = 17,200.00 lb/hr

Extruder Lines ID	Maximum Capacity of raw material (lb/hr)	Uncontrolled PM/PM10 Emissions (ton/yr)	Controlled PM/PM10 Emissions (ton/yr)
C22	2,000.00	25.80	0.03
C23	4,666.67	60.19	0.06
C24	4,666.67	60.19	0.06
C25	4,666.67	60.19	0.06
C45	1,200.00	0.15	0.00
TOTAL		206.55	0.21

Methodology:
Uncontrolled PM/PM10 Emissions = Throughput, lb/hr * ton/2000 lb * emission factor (lb/ton) * ton/2000 lb * 8760 hr/yr
Controlled PM/PM10 Emissions = Uncontrolled PM/PM10 Emissions * (1-control efficiency)

Building 5:
maximum capacity = 1,333.33lb/hr

Extruder Lines ID	Maximum Capacity of raw material (lb/hr)	PM/PM10 Emissions (ton/yr)
C03	733.33	0.60
C20	600.00	0.49
TOTAL		1.08

Methodology:
PM/PM10 Emissions = Throughput, lb/hr * ton/2000 lb * emission factor (lb/ton) * ton/2000 lb * 8760 hr/yr

Potential To Emit for the Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

Pollutant	Potential To Emit (tons/year)
PM	60.19
PM-10	60.19
SO_2	0.00
VOC	7.36
CO	0.00
NO_x	0.00

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM and PM10 are equal to or greater than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-8-11.1(f)(1)(E).

Limited Potential to Emit

Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration):

(a) The baghouse identified as EX1 controlling the blenders in Building 1 shall be in operation at all times the emission units vented to the baghouse are in operation and the PM10 emissions from the blenders in Building 1 shall not exceed 5.18 pounds per hour.

(b) The baghouse identified as EX2 controlling the extruders in Building 1 shall be in operation at all times the emission units vented to the baghouse are in operation and the PM10 emissions from the extruders in Building 1 shall not exceed 5.18 pounds per hour.

(c) The baghouses identified as EX3 and 4 controlling the Raw materials handling; which includes two (2) rail unloading systems in Building 1 shall be in operation at all times the emission units vented to the baghouse are in operation and the PM10 emissions from the Raw materials handling; which includes two (2) rail unloading systems in Building 1 shall each not exceed 1.3 pounds per hour.

(d) The baghouse identified as EX30 controlling the blenders in Building 2 shall be in operation at all times the emission units vented to the baghouse are in operation and the PM10 emissions from the blenders in Building 2 shall not exceed 8.8 pounds per hour.

These limits are necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits), not applicable.

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_x	HAPs
Blenders in Building 1	--	22.69	--	--	--	--	--
Extruders in Building 1	--	22.69	--	--	--	--	--
Material Handling in Building 1	--	11.39	--	--	--	--	--
Blenders in Building 2	--	38.54	--	--	--	--	--
Insignificant Activities*	--	3.16	--	--	--	--	--
Total Emissions	--	99.0	--	--	--	--	–
Title V Applicability Threshold	N/A	100	100	100	100	100	10/25

*Insignificant Activities include the emission units located in building 2 and the twenty (20) pellets silos, two (2) weigh hoppers, pellet conveyor elevators, pellet conveyor augers and cooling towers.

(a) Limited emissions from this source, including this modification, are less than 100 tons per year, therefore, this source is not subject to the Part 70 Operating Permit Program. The requirements of 326 IAC 2-2 (PSD) are also not applicable.

County Attainment Status

The source is located in Vanderburgh County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Vanderburgh County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Federal Rule Applicability

There are no changes in the Federal Rule Applicability from the original FESOP.

State Rule Applicability - Entire Source

326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-3 state rule applicability is revised to establish individual PM allowable for each baghouse, for practically enforceability reason.

326 IAC 6-3: Particulate Matter Emissions Limitation

The plastic extrusion lines at the two (2) plants/buildings are subject to particulate matter limitations under 326 IAC 6-3-2. Pursuant to this rule, particulate emissions from the plastic extrusion lines at the two (2) plants/buildings shall be limited by the following equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

Building 2:

Baghouse EX30 - Controls the emissions from the Blenders C22, C23, C24, C25 and C45; Extruders C22, C23, C24, C25 and C45, with a process weight rate of 17,200 lb/hr.

P = 17,200lb/hr
= 8.6 ton/hr

$E = 4.10\ (8.6)^{0.67}$
= 17.33 lb/hr

The allowables were truncated to 5.18 pounds per hour for the baghouse identified as EX1; 5.18 pounds per hour for the baghouse identified as EX2; 2.6 pounds per hour for the baghouse identified as EX3 and 4; and 8.80 pounds per hour for the baghouse identified as EX30; therefore, the requirements of 326 IAC 2-7 do not apply.

These facilities are in compliance with these PM allowable emissions, since their emissions of 0.048 lbs/hr after control are less than the PM allowables.

326 IAC 8-1-6: (General Reduction Requirements)

Each extruder line has potential VOC emissions less than 25 tons per year. Therefore, this rule does not apply to these extruder lines.

326 IAC 2-4.1 (New Sources Toxics Control)

The source or the proposed new equipment does not have the potential to emit (PTE) 10 tons per year of any HAP or 25 tons per year of any combination of HAPs, therefore the requirements of 326 IAC 2-4.1 do not apply.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

The baghouses, at least once per day when any of the blenders and extruders in Buildings 1 and 2 has applicable compliance monitoring conditions as specified below:

(a) The Permittee shall take readings of the total static pressure drop ranges across all baghouses, at least once per day when any of the blenders and extruders in Buildings 1 and 2 (C04, C06, C15, C16, C18, C31, C32, C51, C22, C23, C24, C25 and C45) are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop range across the baghouses EX1, EX2, and EX30 shall be maintained at 0.8 to 6.0 inches of water or ranges established during the most recent stack test. Baghouses EX3, and EX4, shall be maintained at a pressure drop range of 0.5 to 2.0 inches of water across the baghouses, or ranges established during the most recent stack test. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of this level for any one reading.

(b) Weekly visible emission notations of the truck unloading, blenders, extruding and regrinding stack exhaust in Buildings 1 and 2 shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, 80% of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for the pollution control devices or baghouses shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

These monitoring conditions are necessary because the baghouse for the blenders and

extruders process must operate properly to ensure compliance with 326 IAC 6-3-2 (Process Operations) and 326 IAC 2-8 (FESOP).

Proposed Changes to the FESOP

(a) The following changes have been made to Section A.2 of the permit to state that the new unit C25 has been added to Building 2 and that the existing units C03 and C20 have been moved to building 5 as insignificant activities.

A.2 Emission Units and Pollution Control Summary
The stationary source consists of the following emission units and pollution control devices:

(1) Building 1, which is capable of processing 27,697 pounds of raw materials per hour (lb/hr). This building consists of the following:
- (a) Raw materials handling; which includes two (2) rail unloading systems, which are controlled by baghouses EX 3 and EX 4;
- (b) Eight (8) blenders C04, C06, C15, C16, C18, C31, C32, and C51. These blenders are capable of blending 27,697 pounds of raw materials per hour. All blenders are controlled by baghouse EX 1;
- (c) Eight (8) extruders C04, C06, C15, C16, C18, C31, C32, and C51. These extruders are capable of extruding 27,697 pounds of raw materials per hour. These extruders are controlled by baghouse EX 2; and
- (d) One (1) regrinder.

(2) Building 2, which is capable of processing ~~12,533~~ **17,200** pounds of raw materials per hour (lb/hr). This building consists of the following:
- (a) ~~Raw material handling; which include one (1) truck unloading systems;~~
- ~~(b)~~ ~~Six (6)~~ **Five (5)** blenders ~~C03, C20,~~ C22, C23, C24, **C25,** and C45. These blenders are capable of blending ~~12,533~~ **17,200** pounds of raw materials per hour**. The PM emissions from the blending is controlled by baghouse EX30**;
- ~~(c)~~**(b)** ~~Six (6)~~ **Five (5)** extruders ~~C03, C20,~~ C22, C23, C24, **C25,** and C45. These extruders are capable of extruding ~~12,533~~ **17,200** pounds of raw materials per hour. ~~The PM emissions from the raw materials handling, blending and extruding are controlled by baghouses EX29.~~

Each extrusion line consists of a dedicated blender, material handling, extruder and pelletizing. The source utilizes different types of plastic in the process **such** as ~~follows~~: Polyethylenes, Polypropylenes, ABS, EVA, Nylons, and Polystyrenes.

A.3 Insignificant Activities
This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

Other activities or categories where emissions are equal to or less than 5 pounds of PM per hour or 25 pounds per day:

(a) These activities include twenty (20) pellets silos, two (2) weigh hoppers, pellet conveyor elevators, pellet conveyor augers and cooling towers.

(b) Building 5, which is capable of processing 1,333.33 pounds of raw materials per hour (lb/hr). This building consists of the following:

(a) Two (2) blenders C03, and C20. These blenders are capable of blending 1,333.33 pounds of raw materials per hour;

(b) Two (2) extruders C03, and C20. These extruders are capable of extruding 1,333.33 pounds of raw materials per hour.

(b) The following changes have been made to Section D.1 of the permit to state that the new unit C25 has been added to Building 2 and that the existing units C03 and C20 have been moved to building 5.

(1) Building 1, which is capable of processing 27,697 pounds of raw materials per hour (lb/hr). This building consists of the following:
- (a) Raw materials handling; which includes two (2) rail unloading systems, which are controlled by baghouses EX 3 and EX 4;
- (b) Eight (8) blenders C04, C06, C15, C16, C18, C31, C32, and C51. These blenders are capable of blending 27,697 pounds of raw materials per hour. All blenders are controlled by baghouse EX 1;
- (c) Eight (8) extruders C04, C06, C15, C16, C18, C31, C32, and C51. These extruders are capable of extruding 27,697 pounds of raw materials per hour. These extruders are controlled by baghouse EX 2; and
- (d) One (1) regrinder.

(2) Building 2, which is capable of processing ~~12,533~~ **17,200** ~~-~~pounds of ~~raw materials~~ **final product** per hour (lb/hr). This building consists of the following:
- (a) Raw material handling; which include one (1) truck unloading systems;
- (b) ~~Six (6)~~ **Five (5)** blenders ~~C03, C20,~~ C22, C23, C24, **C25,** and C45. These blenders are capable of blending ~~12,533~~ **17,200** pounds of ~~raw materials~~ **final product** per hour**. The PM emissions from the blending is controlled by baghouse EX30**;
- (c) ~~Six (6)~~ **Five (5)** extruders ~~C03, C20,~~ C22, C23, C24, **C25,** and C45. These extruders are capable of extruding ~~12,533~~ **17,200** pounds of ~~raw materials~~ **final product** per hour. ~~The PM emissions from the raw materials handling, blending and extruding are controlled by baghouses EX29.~~

Each extrusion line consists of a dedicated blender, material handling, extruder and pelletizing. The source utilizes different types of plastic in the process **such** as ~~follows~~: Polyethylenes, Polypropylenes, ABS, EVA, Nylons, and Polystyrenes.

(c) The Particulate Matter limitation in Condition D.1.10 has been revised to more clearly state the PM10 limitation. The changes to the permit are as follows:

D.1.10 Particulate Matter less than 10 Microns **[326 IAC 2-8][326 IAC 2-2]**

Pursuant to 326 IAC 2-8 **(FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration)**:

(a) The baghouse identified as EX1 controlling the blenders in Building 1 shall be in operation at all times the emission units vented to the baghouse are in operation and the PM10 emissions from the **blenders** ~~extrusion lines~~ in Buildings 1 ~~and 2~~ shall **not exceed 3.39 pounds per hour** ~~be limited 99 tons per twelve-month period, rolled on a monthly basis. Compliance with this condition will make 326 IAC 2-7, Part 70 Rules requirement not applicable~~.

(b) The baghouse identified as EX2 controlling the extruders in Building 1 shall be in operation at all times the emission units vented to the baghouse are in operation

and the PM10 emissions from the extruders in Building 1 shall not exceed 5.18 pounds per hour.

(c) The baghouses identified as EX3 and 4 controlling the Raw materials handling; which includes two (2) rail unloading systems in Building 1 shall be in operation at all times the emission units vented to the baghouse are in operation and the PM10 emissions from the Raw materials handling; which includes two (2) rail unloading systems in Building 1 shall each not exceed 1.3 pounds per hour.

(d) The baghouse identified as EX30 controlling the blenders in Building 2 shall be in operation at all times the emission units vented to the baghouse are in operation and the PM10 emissions from the blenders in Building 2 shall not exceed 8.8 pounds per hour.

These limits are necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits), not applicable.

(d) The Particulate Matter limitation in Condition D.1.11 has been revised to include the allowables for building 2, whose throughputs have increased. The changes to the permit are as follows:

D.1.11 Particulate Matter (PM)
Pursuant to 326 IAC 6-3 the PM emissions from the following facilities shall be limited as follows:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Facilities	Baghouse ID	PM Allowable Emissions (lb/hr)	**Truncated PM Allowable Emissions (lb/hr)**
Building 1: Blenders C04, C06, C15, C16, C18, C31, C32, and C51	EX1	23.8	**5.18**
Building 1: Extruders C04, C06, C15, C16, C18, C31, C32, and C51	EX2	23.7	**5.18**
Building 1: Rail Unloading	EX3	12.4	**1.3**
Building 1: Rail Unloading	EX4	12.4	**1.3**
Building 2: Raw Material Handling-Truck Unloading; Blenders ~~C03, C20,~~ C22, C23, C24**, C25** and C45; Extruders ~~C03, C20,~~ C22, C23, C24**, C25** and C45	EX~~29~~ **30**	~~14.0~~ **17.33**	**8.8**
TOTAL		~~86.3~~ **89.63**	**21.8**

The allowables were truncated to 5.18 pounds per hour for the baghouse identified as EX1; 5.18 pounds per hour for the baghouse identified as EX2; 2.6 pounds per hour for the baghouse identified as EX3 and 4; and 8.80 pounds per hour for the baghouse identified as EX30; therefore, the requirements of 326 IAC 2-7 do not apply.

(e) Condition D.1.13 (New Sources Toxics Control (HAPs)) has been added to the permit to require approval before increasing the potential emissions of any single hazardous air pollutant or any combination of hazardous air pollutants to 10 or 25 tons per year or more, respectively, from each extruder line. The new condition reads as follows:

D.1.13 New Sources Toxics Control (HAPs)

Any change or modification which may increase the potential emissions of any single hazardous air pollutant or any combination of hazardous air pollutants to 10 or 25 tons per year or more, respectively, from each extruder line in this permit must be approved by the Office of Air Management (OAM) and be subject to 326 IAC 2-4.1 (New Sources Toxics Control) before such change may occur.

(f) Condition D.1.13, now D.1.4, (Pressure Drop Readings) has been revised to update the emission unit and baghouse identification. The changes are as follows:

D.1.~~13~~**14** Pressure Drop Readings

The Permittee shall take readings of the total static pressure drop ranges across all baghouses, at least once per day when any of the blenders and extruders in Buildings 1 and 2 (C04, C06, C15, C16, C18, C31, C32, C51, ~~C03, C20~~, C22, C23, C24**, C25** and C45) are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop range across the baghouses EX1, EX2, and EX~~29~~**30** shall be maintained at 0.8 to 6.0 inches of water or ranges established during the most recent stack test. Baghouses EX3, and EX4, shall be maintained at a pressure drop range of 0.5 to 2.0 inches of water across the baghouses, or ranges established during the most recent stack test. **Baghouse EX30 shall be maintained at a pressure drop range of 1.0 to 3.0 inches of water across the baghouse, or a range established during the most recent stack test.** The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of this level for any one reading.

The instrument used for determining the pressure shall comply with condition C.10 Pressure Gauge Specifications, be subject to approval by IDEM, OAM, and EEPA and shall be calibrated at least once every six (6) months.

(g) Condition D.1.15, now D.1.16, (Compliance Stack Tests) has been revised to state the updated baghouse identification. The changes are as follows:

D.1.~~15~~**16** ~~Compliance Stack Tests~~ **Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]**

Pursuant to the requirements of 326 IAC 2-1-4, compliance testing shall be conducted from baghouses EX1, EX2, EX3, and EX4 to establish each pressure drop range that corresponds to the PM and PM10 limit in D.1.10. ~~One identical baghouse with EX29 shall be stack tested and~~

~~the pressure drop range established shall be considered to represent both baghouses.~~ This stack tests shall be performed within twenty-four months after the original FESOP permit issue date, December 1, 1998. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner. The Office of Air Management (OAM and EEPA) shall be notified of the actual test date at least two (2) weeks prior to the date, a test protocol shall be submitted to the OAM, Compliance Data Section, and EEPA 35 days in advance of the test, and all test reports must be received by the OAM within 45 days of completion of the testing, pursuant to that rule.

Conclusion

The operation of this manufacturing operation engaged in the custom compounding of purchased resins shall be subject to the conditions of the attached proposed **SMF163-11860-00120**.

Appendix A: Emission Calculations

Company Name: Ferro Corp.
Plant Location: 5001 O'Hara Dr., Evansville, IN 47711
County: Vanderburgh
Permit Reviewer: Phillip Ritz/EVP
SPR#: T163-11860-00120
Plt. ID #: 163-00120

Potential PM Emissions * * Process Emissions * *

Process:	Rate (lbs/hr)	Pollutant	Ef (lb/ton produced)	PM Emissions (ton/yr)	Eac #1 (ton/yr)	Type of control	Control Efficiency (%)
C-25	4666.670	PM	5.96	60.91	0.06	baghouse	99.9%
C-03	733.3	PM	8.1	12.96	12.96		
C-20	600	PM	8.1	10.60	10.60		

Potential VOC Emissions * * Process Emissions * *

Process:	Rate (lbs/hr)	Pollutant	Ef (lb/ton produced)	VOC Emissions (ton/yr)
C-25	3360.000	VOC	1.0	7.36
C-03	528.0	VOC	1.0	1.15
C-20	432	VOC	1.0	0.95